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LIST OF THE LAMPYRIDÆ FROM THE HUACHUCA MOUNTAINS, ARIZONA, AND DESCRIPTIONS OF NEW SPECIES.

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In the following list and descriptions three genera occur which are new to the fauna of the United States. These are *Euryopa*, *Discodon* and *Plectonotum*. The genus *Euryopa* Gorh. is a member of the tribe *Mastinocerini* as defined by Dr. Leconte and the genus as well as its new species and the new *Phengodes* will be described by Mr. H. S. Barber who is revising this tribe. *Discodon* Gorh. is closely allied to *Polemius* Lec. from which it differs only in having the outer claws of the middle and hind tarsi of the males cleft. Although remarking that this is the only character separating the two genera, Mr. Gorham,* however, described *difficile*, *bivittatum* and *melancholicum* as *Discodon* which by their uncleft middle and hind outer tarsal claws are plainly *Polemius*. *Polemius planicollis* Lec.† is a *Discodon* as the males have the outer claws of the middle and hind tarsi cleft; this may also be the case with some of our larger *Polemius* which are unknown to me. However, the different form of the tarsal claws alone is, in my opinion, not sufficient to give it more than subgeneric standing; for with the same right the divisions of the genera *Podabrus* and *Telephorus*, based on the form of the tarsal

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† As *planicollis* is not preoccupied in this genus the change of name proposed by Dr. Gemminger is not necessary.

claws, could be elevated to generic rank, which Mr. Gorham, however, advocates.

The genus *Plectonotum* Gorh. is closely allied to *Silis* and *Polemius* and was erected on the form of the male thorax which appears as if the basal half of the reflexed lateral margin, from the incisure to the basal angles, is cut away. The modifications of the lateral margin of the known species of *Silis* and *Polemius* is so greatly diversified that the erection of a new genus on this character alone is hardly justified.

Mr. Gorham in the "Biologia" describes *basalis*, *nigrita*, *combusta*, *transfixa*, *fulvipes* and *lineola* as *Silis*, but if we follow Leconte, these species have to be placed in the genus *Polemius*.

The genus *Ditemnus* Lec. is made a synonym of *Silis* by Mr. Gorham. This is correct as far as the lateral modifications or processes of the thorax are concerned, but Dr. Leconte in his original description gave, besides this, the different form of the palpi as an additional character. How far the palpi differ in the species of *Ditemnus* and *Silis* I am, however, unable to say, as I know only *D. bidentatus* and a very small portion of the numerous described species of *Silis*.

The following list of the Lampyridæ from the Huachuca Mountains is interesting, as it shows more than any other family the Sonoran character of the coleopterous fauna of that region.

<i>Rhyncheros sanguinipennis</i> Say.	<i>Chauliognathus misellus</i> Horn.
<i>Lycus fernandesi</i> Duges.	" <i>opacus</i> Lec.
<i>Lycostomus fulvellus</i> Lec.	" <i>limbicollis</i> Lec.
" <i>rubescens</i> n. sp.	<i>Discodon bipunctatum</i> n. sp.
" <i>loripes</i> Chev.	" <i>flavomarginatum</i> n. sp.
<i>Cæniella amplicornis</i> Lec.	<i>Polemius niger</i> n. sp.
<i>Lygistopterus rubripennis</i> Lec.	" <i>strenuus</i> Lec.
<i>Plateros</i> sp.	" <i>binotatus</i> Fall.
" <i>nigerrimus</i> n. sp.	" <i>arizonensis</i> n. sp.
<i>Ellychnia californica</i> Mots.	<i>Silis abdominalis</i> n. sp.
<i>Pyropyga simplex</i> Lec.	" <i>nigerrima</i> n. sp.
<i>Phengodes</i> n. sp.	<i>Plectonotum excisum</i> n. sp.
<i>Euryopa</i> n. sp.	<i>Podabrus mexicanus</i> Gorh.
<i>Chauliognathus profundus</i> Lec.	" <i>comes</i> Lec.
" <i>ineptus</i> Horn.	<i>Malthinus subcostatus</i> n. sp.
	<i>Malthodes bicolor</i> Lec.

NOTES AND DESCRIPTIONS.

Lycostomus rubescens, new species.

Head black; beak moderate. Antennæ black, serrate; third joint slightly longer than fourth. Prothorax orange-yellow, more or less densely pubescent. Elytra reddish, costate and reticulate, the alternate intervals slightly more prominent than the others. Body beneath reddish, except the metasternum which is more or less dusky and the abdomen which is also sometimes feebly dusky. Femora more or less blackish. Tibiæ and tarsi black. Length 12-13 mm.

Male. — Antennal joints more elongate and serrate than in the female; penultimate segment triangularly incised at middle, with the angles of the incisure rounded. Last ventral segment as usual.

Female. — Antennæ feebly serrate, joints shorter than in the male. Last ventral segment lobed at middle, the lobe triangularly incised at middle.

Huachuca Mts., Arizona.

This species is allied to *fulvellus* Lec. from which it differs, besides coloration, in having the antennæ more serrate and the penultimate ventral segment of the male differently formed. It resembles also quite closely the Mexican *lineicollis* Chev., but that species has the underside of body, legs, a broad thoracic and a scutellar spot, black. The known North American species of the genus *Lycostomus* may be separated by the following table:

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|--|-------------------------|
| 1. Elytra unicolorous, either yellow or reddish..... | 3 |
| Elytra in great part black or red, with an apical black space..... | 2 |
| 2. Underside of body and legs black; elytra black with elongate humeral spot and sometimes the base on each side of suture fulvous..... | <i>lateralis</i> Melsh. |
| Underside and legs red, tarsi black; thorax and elytra red, the latter at apical fourth, black; penultimate ventral segment of male broadly, triangularly emarginate..... | <i>sanguineus</i> Gorh. |
| 3. Underside in great part black; abdomen with last two segments and sides more or less fulvous; thorax with a median black spot dilated at base and sometimes near apex; penultimate ventral segment of male truncate-emarginate. | |

fulvellus Lec.

- | | |
|--|----------------------|
| Abdomen unicolorous, rarely feebly dusky at middle in <i>rubescens</i> | 4 |
| 4. Prothorax shining, not pubescent; third joint of antennæ as long, or nearly as long, as the next two; penultimate ventral segment of male emarginate-truncate | <i>loripes</i> Chev. |

Prothorax feebly shining, pubescent; third antennal joint slightly longer than fourth, but distinctly shorter than joints three and four; penultimate ventral segment of male triangularly incised at middle, angles of incisure rounded.

rubescens n. sp.

Plateros nigerrimus, new species.

Entirely black. Head feebly punctate, transversely impressed between the eyes. Antennæ distinctly serrate in the male, more feebly and the joints broader in

the female; second joint very small; third triangular, with the apex as wide as long; fourth joint distinctly longer than the third, but not wider; fifth and following joints similar to the fourth, gradually decreasing in width, the outer joints much narrower than the basal joints especially in the male. Thorax with a deeply impressed line near base, which extends to the middle of the disk; apex with a rather indistinct median carina; sides somewhat coarsely punctured; disk smooth; surface sparsely pubescent, with fine black hairs. Elytra with the usual costæ and reticulate intervals, the alternate costæ only very feebly stronger than the others. Body beneath shining, sparsely pubescent; abdomen sparsely and finely punctate, the first three or four ventral segments with a number of finely impressed transverse lines. Penultimate ventral segment of the male arcuate-emarginate, last ventral narrow, elongate. Last ventral of the female rounded at tip. Length 6-6.5 mm.

Huachuca Mts., Arizona.

A moderately large series shows that the color is constant, by which it will be easily distinguished from the described North American and Mexican species, except *carbonarius* from Guatemala, which, according to the very short description, has narrower and longer elytra and an obsolete basal groove.

***Discodon bipunctatum*, new species.**

Head black, finely punctate. Antennæ black, joints elongate cylindrical. Thorax as long as wide in the male, wider than long in the female; apical margin broadly rounded and continuous with the lateral margin; hind angles obtuse, feebly rounded; basal transverse impression distinct, limited on each side some distance from the hind angles by an indistinct fovea; surface finely and sparsely punctate; color reddish or yellowish with a median black vitta of nearly equal width from base to apex and a black spot near the lateral incision. Elytra black; scabrous, more roughly sculptured near apex than base; costæ not well defined. Underside, except thorax, black. Length 10-12 mm.

Male. — Antennæ not quite reaching to apex of elytra. Prothorax at about middle of lateral margin incised; apical angle of the incisure rounded, basal angle of the incisure obliterated by the lateral margin continuing from the incisure to the basal angle of the prothorax in almost a straight line. Outer claw of front tarsi broadly lobed at base; outer claw of middle and hind tarsi cleft at tip; inner claws, as usual, simple. Penultimate ventral segment broadly, triangularly emarginate; last ventral, as usual, deeply divided.

Female. — Antennæ similar to the male but shorter. Prothorax wider than long; lateral margin of about middle distinctly sinuate. Claws, as usual, simple. Last ventral segment rounded at apex and feebly incised at middle.

Huachuca Mts., Arizona.

By description this is near *Polemius regularis* Fall, described from a single female, which is said to have the sides of thorax parallel and broadly arcuate and without lateral black spot. The form of thorax is similar to *Polemius planicollis* Lec.

The genus *Discodon* Gorb. is, as stated already above, very closely allied to *Polemium* Lec. from which it differs only in having the outer claws of the middle and hind tarsi of the males cleft.

***Discodon flavomarginatum*, new species.**

Head black, front yellow; black part finely punctate. Antennæ black, slender, extending below middle of elytron; joints elongate. Thorax transverse; apical margin broadly rounded, angles entirely obliterated; side margin broadly reflexed, nearly parallel and feebly rounded; lateral incisure at about basal fourth, deep and oblique; hind angles rounded; basal margin broadly rounded at middle; basal impression deep, limited on each side by the reflexed side margin; color reddish, with a black median vitta of nearly equal width, narrower than the pale space on each side. Elytra feebly dilated a little below the humeri; surface finely scabrous, costæ scarcely evident; color dark brown, lateral margin rather broadly pale. Beneath, except thorax, black. Outer claw of anterior and intermediate tarsi broadly lobed; outer claw of posterior tarsi cleft. Penultimate ventral segment broadly, triangularly emarginate. Last ventral deeply divided. Length 14 mm.

Huachuca Mts., Arizona.

Judging from the short description this differs from *Polemium princeps* Lec., which it seems to resemble in the broadly rounded hind angles and the lateral incision of thorax at about basal fourth. From the allied Mexican species it differs in having the outer claw of only the hind tarsi cleft.

***Polemium niger*, new species.**

Entirely black, except mandibles. Head finely punctate. Antennæ slightly flattened, extending to the middle of elytra. Thorax transverse; anterior margin broadly rounded, angles obliterated; lateral margin rather narrowly and relatively strongly reflexed, sides gradually widening towards base, feebly undulate slightly before middle; base feebly arcuate, hind angles broadly rounded. Elytra scabrous and feebly costate, side margin below humeri feebly explanate. Last ventral segment rounded at apex. Length 9 mm.

Huachuca Mts., Arizona, one female.

Distinct from any of the North American species by the uniform black color, but seems to be very close to *Discodon melancholicum* Gorb.

***Polemium arizonensis*, new species.**

Head black, pale in front, densely punctate. Antennæ black, first two or three joints more or less pale. Thorax transverse, apical margin broadly rounded, angles obliterated; side margin obliquely incised at about middle; basal margin feebly rounded, basal impressed line distinct, hind angles rounded; color reddish yellow without black vitta or spot. Scutellum reddish. Elytra black, scabrous; costæ indistinct; surface finely pubescent, which gives the elytra a somewhat pruinose aspect. Underside of body reddish, metasternum, tibiæ, except at base, and tarsi, black. Penultimate ventral segment very deeply triangularly emarginate; last ventral deeply divided. Length 7.5 mm.

Huachuca Mts., Arizona.

This species is very near *binotatus* Fall, but differs in the shorter and wider third, fourth and fifth antennal joints and the immaculate, shorter thorax, with broadly reflexed sides near hind angles.

The female differs from the above described male, in having the lateral margin entire, feebly sinuate, and shorter and slightly stouter antennal joints.

Silis nigerrima, new species.

Black, finely pubescent with short, cinereous hairs, which are longer on the thorax than elytra. Head minute and sparsely punctured. Antennæ slender; thorax very sparsely, minutely punctate, apical margin broadly arcuate; disk shallowly depressed at middle. Elytra not coarsely punctate, at the extreme base very finely and densely punctate; costæ scarcely evident. Body beneath pubescent with longer cinereous hairs than on elytra. Length 11-12 mm.

Male. — Antennæ longer than the entire body; joints clothed rather densely with short, prostrate, pale pubescence. Thorax with two broad lateral processes; the apical process is directed backwards, almost touching the basal process with its apex, which is bent slightly upwards; the basal process is laterally compressed and slightly excavated near apex; below the posterior process the lateral margin is arcuate-emarginate from the process to the basal angles, which are obtuse. Penultimate ventral segment broadly, triangularly emarginate; last ventral, as usual, longitudinally divided.

Female. — Antennæ slender, but shorter than the body. Thorax transverse, apical margin broadly arcuate, continuous with the side margin; sides very distinctly sinuate slightly before middle and feebly so before basal angles, which are obtuse and very feebly rounded. Last ventral segment broadly rounded.

Huachuca Mts., Arizona.

The black color, the lateral thoracic processes of the male, which are somewhat similar to those of *perforata* Lec., and the form of the female thorax makes this an easily recognizable species. The Mexican *laticollis* Gorh., which is also black and has the male thorax similarly formed, is a shorter and more robust insect, with wider thorax, shorter antennæ and with last abdominal segment flavous.

Silis abdominalis, new species.

Black, front of head, the first two joints of antennæ, scutellum, legs, except tarsi and apex of hind tibiæ, sides of abdominal segments and the last two ventral segments reddish. Head finely punctate and sparsely pubescent. Antennæ slender. Thorax almost impunctate; apical margin broadly arcuate. Elytra rather coarsely punctate, costate and feebly pubescent. Body beneath more evidently pubescent than the elytra. Length 5 mm.

Male. — Antennæ not quite as long as the entire body, joints elongate, with very feeble pubescence. Thorax with two broad lateral processes; the apical process is directed backwards, short and somewhat truncate at tip; the basal process is broad, feebly narrowing to apex, where it is feebly emarginate; below the posterior process the lateral margin is very feebly emarginate; hind angles rather acute. Penultimate

ventral segment broadly, triangularly emarginate; last ventral longitudinally divided.

Female. — Antennæ reaching almost to middle of elytra; joints less elongate than in the male. Thorax about twice as wide as long; apical margin truncate; front angles obliterated; lateral margin rather strongly reflexed, feebly arcuate, sinuate at middle and near the hind angles, the latter rather acute. Last ventral truncate at apex; on each side of middle the segment is distinctly impressed.

Huachuca Mts., Arizona.

This species which occurs also in the Chiricahua Mts., Arizona (E. A. Schwarz), is related to *perforatus* Lec., but the much shorter lateral thoracic processes of the male and the different color of abdomen and legs will separate *abdominalis* from that species.

The sinuation of the lateral margin of thorax at middle is in some specimens feeble, in others very pronounced. The ventral segments are more or less distinctly bordered with yellow.

***Plectonotum excisum*, new species.**

Black, prothorax and front of head pale or red. Head and thorax minutely and sparsely punctate. Thorax with front margin arcuate, angles obliterated; basal margin truncate at middle, slightly oblique each side, angles obtuse. Elytra rugosely punctured and finely pubescent. Body beneath sparsely and finely pubescent. Length 5 mm.

Male. — Lateral margin of thorax feebly obliquely narrowing, from the hind angles to basal half and at this point suddenly dilated, with the sides broadly rounded, reflexed and continuous with the apical margin. Penultimate ventral segment feebly emarginate; last ventral segment divided.

Female. — Lateral margin of thorax very feebly sinuate at middle. Last ventral segment with a small arcuate emargination at middle of apical margin.

Huachuca Mts., Arizona.

The genus *Plectonotum* Gorh. is closely allied to *Silis* and *Polemius* and was erected for a small black species from Ecuador on the peculiar form of the thorax of the male.

***Malthinus subcostatus*, new species.**

Head black, front reddish, finely pubescent. Antennæ black, slender. Thorax red, subquadrate, front margin very feebly rounded; front angles obtuse; sides nearly parallel, straight; hind angles obtusely rounded; basal margin truncate at middle and on each side oblique; surface smooth, shining. Elytra about one third shorter than the abdomen, black, apex yellow; surface coarsely sculptured and very indistinctly punctured, the punctures not forming striæ; each elytron with two moderately pronounced costæ. Body beneath and legs piceous, except head and thorax, which are reddish. Length 4 mm.

Huachuca Mts., Arizona, one female.

Differs from *atripennis* and *occipitalis* by the different coloration and sculpture of elytra; the red thorax, black legs, and sculpture of elytra will separate it from allied Mexican species.